

KOPANEVICH, P.P.

"Dancing" and swarming of honeybees. Priroda 52 no.8:102-103  
Ag '62. (MIRA 16:9)

1. Moskovskaya veterinarnaya akademiya.  
(Bees)

KOPANEVICH, P.P.

Antibiotics and bees. Priroda 53 no. 11:67-70 '64. (MIRA 18:1)

1. Moskovskaya veterinarnaya akademiya.

KOPANOVICH, YE. G.

23282 Dopusi Na Izgotovleniye Detaley Iz Plastmass I Pressfermy Dlya Ikh  
Pressovaniya. Trudy Mosk. Aviats. Tekhnol. In-ta, Vyp. 6, 1949,  
c. 49-66.

SO: LETOPIS' NO. 31, 1949

KOPANEVICH, E. G.

Osnovy konstruirovaniia plastmassovykh detalei i pressform. Moskva,  
Mashgiz, 1950. 164 p.

(Fundamentals of designing plastic machine parts and pressmolds.)

SO: Manufacturing and Mechanical Engineering in the Soviet Union,  
Library of Congress, 1953.

KOPANEVICH, E. G.

Konstrukce soucasti z plastickych latex a lisovacich forem. (Vyd. 1.)  
Praha, Prumyslove vydavatelstvi, 1952. 152 p. (Kniznice kovourumyslu,  
sv. 110). (Manufacture of parts made of plastic materials and press  
molds. Tr. from the Russian. 1st ed. illus., bibl., footnotes, tables)

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 5, no. 12  
December 1956

KOPANEVICH, YE. G.

Dies (Metalworking)

Dies with hydro-plastic components. Stan. i instr. 23 no. 3:28-29 Mr '52

Monthly List of Russian Accessions, Library of Congress, July 1952. UNCLASSIFIED.

KOPANEVICH, Ye. G.

Machine Tools

Hydroplastic clamps in universal devices, Stan. i instr., 22, No. 4, 1952

Monthly List of Russian Acquisitions, Library of Congress, November 1952. UNCLASSIFIED.

KOPANEVICH, YE. G., Eng.

Founding

Method of calculating the outer (shafts) and inner (bore) size of parts cast in metallic molds. Vest. mash., 32, No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

KOPANEVICH, Ya.G.

[Multiple clamps with hydraulic links in instrument construction]  
Mnogokratnye sashimy s gidravlicheskimi sven'iiami v priborostroenii.  
Moskva, Gos. izd-vo obor. promyshl., 1953. 53 p. (MLIA 6:12)  
(Hydraulic machinery) (Machine tools)

1. KOPANEVICH, E. G.
2. USSR (600)
4. Machine-Shop Practice
7. Setting up of work in machine-tool fixtures by a flat surface and two openings.  
Stan. i instr. 24, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000824510002-9

Tolerances for metric thread elements formed in plastic. Vest.mash. 33  
no.3:73-78, 80-82 Mr '53. (MLRA 6:5)  
(Screw threads, Standards)

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000824510002-9"

KOPANEVICH, Ye. G.; OSMAS, Ya. V., inzhener, retezentsent; BELYAYEV, V. N.,  
inzhener, retezentsent; KORNYUSHIN, P. M., inzhener, redaktor;  
TIKHONOV, A. Ya., tekhnicheskiy redaktor.

[Designing machine-tool attachments in the instrument industry]  
Proektirovanie stanochnykh prisposoblenii v priborostroenii. Mo-  
skva, Gos. nauchno-tekhn. issd-vo mashinostroit. lit-ry, 1954.  
231 p.  
(Machine tools)

KOPANEVICH, Ye.G., inzhener.

Wall thickness precision in making hollow parts by die casting.  
Lit. preizv. no. 7:26-30 J1 '56. (MLRA 9:9)  
(Die casting)

KOPANEVICH, Ye. G. (Cand. Tech. Sci.)

"Automation of Drilling Operations in Instrument Manufacture." in book Some Problems in the Modern Technology of Instrument Making, Moscow. Chorongiz, 1956. 1957 126 p. Moscow. Aviationnyy tekhnologicheskiy institut.

In this article the author discusses automation of drilling operations and suggests the following two ways in which it may be accomplished: 1) building a universal drilling machine with quick resetting for new drilling specifications and 2) developing and introducing special devices for performing automatic drilling operations on ordinary drilling machines. The two methods suggested are discussed in detail. The article contains schematic diagrams of automatic drilling machines. No references are given.

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000824510002-9

*KOPANEVICH, Ye. G.*

KOPANEVICH, Ye. G., kandidat tekhnicheskikh nauk.

Introducing automatic control of drilling operations in instrument  
manufacturing plants. Trudy MATI no.33:97-100 '57. (MIRA 10:10)  
(Drilling and boring machinery) (Automatic control)

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000824510002-9"

25(1)

PHASE I BOOK EXPLOITATION

SOV/2690

Kopanevich, Yevgeniy Grigor'yevich, Candidate of Technical Sciences

Tochnost' detaley, izgotovlyayemykh v metallicheskikh formakh  
(Precision of Parts Made in Metal Molds) Moscow, Mashgiz, 1958.  
201 p. 3,000 copies printed.

Reviewer: Z. F. Urazayev, Engineer; Ed.: Yu. A. Vorob'yev, Engineer; Tech. Ed.: V. D. El'kind; Managing Ed. for Literature on Machinery and Instrument Construction: N. V. Pokrovskiy, Engineer.

PURPOSE: This book is intended for designers, technologists, foremen, and production workers in the instrument-and machinery-construction industries. It may also be used by students of correspondence vuzes and tekhnikums.

COVERAGE: The author analyzes errors causing spread of dimensions in parts manufactured by die casting, investment casting, die forging, and powder metallurgy methods, as well as spread in parts made in plastic molds. Classifications of dimensions according to factors causing spread are presented along with corresponding formulas, graphs, and tables for calculating tolerances for castings.

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## Precision of Parts (Cont.)

SOV/2690

Also discussed are ways of improving casting precision and examples for determining tolerances and dimensions for molding. No personalities are mentioned. There are 22 references, all Soviet.

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000824510002-9

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## Precision of Parts (Cont.)

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Card 7/8	

MALOV, Aleksey Nikolayevich; KOPANEVICH, Ye.G., kand.tekhn.nauk, retsenzent;  
SHMKHTER, V.Ya., kand.tekhn.nauk, red.; BELYAYEVA, L.A., izdatel'skiy  
red.; ROZHIN, V.P., tekhn.red.

[Technology of cold pressing and forging] Tekhnologiya kholodnoi  
shtampovki. Izd. 2-oe, perer. Moskva, Gos. izd-vo obor. promyshl.,  
1958. 374 p.  
(Sheet-metal work) (Forging) (MIRA 11:5)

KoPANEVICH, Y.E.

SOV/180-59-4-47/48

**AUTHOR:** None given

**TITLE:** A Conference on the Accuracy of Machine Building Castings

**PERIODICAL:** Izvestiya Akademii Nauk SSSR, Otdelenie Tekhnicheskikh Nauk, Metallicheskii i topivnoi, 1959, Nr 4, pp 255-256 (USSR)

**ABSTRACT:** A conference on the above subject took place in the Institute of Machine Building of the Academy of Sciences of the USSR on 22-25th April 1959. About 200 representatives of scientific-research institutes, laboratories, universities and largest works from 34 towns participated in the conference. The following papers were read: D.N.Gulyayev "The present state of studies of the accuracy of castings"; B.N.Alemany "Trials of investigations on the dependence of the accuracy of casting on technological factors"; M.Filchev "Methods of analytical evaluation of dimensions of castings"; I.A.Fedorov "Theoretical and experimental investigations of the accuracy of castings"; I.P.Terentenok "The system of allowances for mechanical working of castings"; A.G.Doponovich "Methods for the determination of tolerances of dimensions of cast parts"; S.A.Karenkin "Tolerances for non-ferrous castings produced by various methods of casting"; G.G.Sikul'skii "Methods of controlling the cleanliness of the surface of castings"; I.S.Kononchuk "The influence of stresses formed during casting on the accuracy of castings"; L.M.Korovay "The process of casting should be considered as a factor of determining the accuracy of castings"; A.S.Chernykh "The influence of casting on the surface and the dimensions of castings caused by periodic features of operation of the patterned-based equipment"; A.M.Gol'denfeld "New physical deformations of castings and their influence on the conditions of making accurate castings in sand and lost wax"; H.Lidovskii "The influence of the chemical composition of iron on the accuracy of dimensions of castings"; S.A.Serzhant and B.B.Bul'danov "On the dimensions and accuracy of castings in the research scale models"; V.A.Zhuravlev "Estimates in research for the cleanliness and accuracy of large castings"; A.I.Zhuravlev and I.I.Zhuravlev "On the accuracy of castings made by the lost wax method"; D.I.Goryainov "An investigation of the accuracy and surface cleanliness of castings made under pressure and by the lost wax method"; M.I.Melikyan and R.B.Gulyayev "Formation of new controls of casting during casting under pressure"; K.N.Korobkov and A.A.Chernykh and N.N.Sokolov "An approach in the surface quality of castings under unidirectional pressure by forming a vacuum of the pressure medium". It was established that studies on the subject of the accuracy of castings are developing two sides mainly due to lack of coordination in the research work and insufficient number of specialists in the field of mathematics, physics and electronics. In order to develop methods for overall calculations of the accurate productivity and estimates of casting processes the conference recommended organization of a bureau and bureau for scientific research institutes, universities and individual material testing organizations of foundry speciality metallurgists, physico-chemicalists, etc.

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## PAGE I BOOK EXPLOITATION

Sov/5304

Soveticheskiye po teorii liternykh protsessov. 5th, 1959.

Technost' otdel'noi trudy sovetschaniya (Accuracy of Castings: Fracture, Actions of the Earth, Conference on the Theory of Founding Processes) Moscow, Metalliz, 1960. 206 p. 3,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya.

Kollegiya po tekhnologii mashinostroyeniya.

Ed. (Title page): B. B. Gulyayev, Doctor of Technical Sciences, Professor; Ed. of Publishing House: O. M. Kobolova; Tech. Ed.: A. F. Urakov; Managing Ed. for Literature on Hot-Processed Metals: S. V. Golovin, Engineer.

PURPOSE: This book is intended for scientific and technical personnel at scientific research institutes, factories, and schools of higher education.

CONTENTS: The book contains 19 reports read at a conference on the accuracy of castings. The conference was organized by the Committee on Processing in Machine Building and sponsored by the Institute of Metallurgy of the Academy of Sciences USSR. The reports presented by leading specialists in science workers, and production personnel, discuss the present state of the problem of the accuracy of castings and methods of solving the problems involved. There are 58 references, mostly Soviet.

Serebrenik, I. P. [Candidate of Technical Sciences]. System 54.

Korolevich, V. A. [Candidate of Technical Sciences]. Di-

mensional tolerances of Cast Parts

Kavchenko, S. A. [Candidate of Technical Sciences]. Tolerances 67

of Nonferrous-Alloy Castings Made by Various Methods

Ivanov, N. F. [Engineer]. Investigating the Effect of 60

Variation in the Chemical Composition of Cast Iron on Shrink-

age and Dimensional Accuracy of Castings.

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P. P. Berez.

Nikol'skiy, O. M. [Engineer]. Classification, Conventional 87

Symbol, and Methods of Determining the Roughness of Cast

Surfaces

Tokorov, V. O. [Candidate of Technical Sciences]. Con-

ditions for Increasing the Accuracy of Castings Obtained

in Sand Molds

The experimental part of the work was carried out under

the supervision and direct participation of Engineer

Z. I. Budantseva.

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"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000824510002-9

KOPANEVICH, Ye.G., kand.tekhn.nauk, dots.

Determining the economic efficiency of using specializer equipment.  
Trudy MATI no.47:5-16 '60.  
(MIRA 14:2)  
(Factory management)

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000824510002-9"

KOPANEVICH, Ye.G., kand.tekhn.nauk, dotsent

Accuracy of dimensions determining axes of holes drilled in jigs.  
Trudy MATI no.52:5-19 '61. (MIRA 15:4)  
(Drilling and boring)

BELEVITSEV, A.T., kand. tekhn. nauk; GOLIKOV, V.I., kand. tekhn. nauk;  
GOTSERIDZE, R.M., inzh.; YEFIMOV, V.P., kand.tekhn. nauk  
[deceased]; KOPANEVICH, Ye.G., kand. tekhn. nauk; MALOV, A.N.,  
prof.; PARFENOV, O.D., kand. tekhn. nauk; ROZENBERG, A.G.,  
tekhn.; SEMIBRATOV, M.N., kand. tekhn. nauk; SKURATOV, A.Ye.,  
kand. tekhn. nauk; SOKOLOVSKIY, I.A., kand. tekhn.nauk;  
SYROVATCHENKO, P.V., kand. tekhn.nauk; TISHCHENKO, O.F., doktor  
tekhn. nauk; USHAKOV, N.N., kand. tekhn. nauk; CHUMAKOV, V.P.,  
kand. tekhn. nauk; SHAL'NOV, V.A., kand. tekhn.nauk; SHISHKIN,  
V.A., kand. tekhn.nauk; YUZHNYY, I.I., inzh.; BLAGOSKLONOVA,  
N.Yu., red. izd-va; SOKOLOVA, T.F., tekhn. red.

[Manual for engineers in the instrument industry] Spravochnik  
tekhnologa-priborostroitelja. Pod red. A.N. Malova. Moskva,  
Mashgiz, 1962. 988 p. (MIRA 16:2)  
(Instrument manufacture)

VOROB'YEV, Yu.A., kand. tekhn. nauk; KOPANEVICH, Ye.G., kand. tekhn. nauk, red.; SIROTIN, A.I., inzh., red. TIGOV, GORDEYEVA, L.P., tekhn. red.

[Accuracy of parts obtained from nonferrous alloys and plastics by casting and pressing] Tochmost' detalei, polucheniye lit'ey i pressovaniem iz tsvetnykh splavov i plastmass. Moskva, Mashgiz, 1963. 173 p. (MIRA 16:6)  
(Metalwork) (Plastics--Molding)

KOPANEVICH, Ye.G., kand. tekhn. nauk; VOROB'YEV, Yu.A., kand.  
tekhn. nauk, red.; SIROTIN, A.I., red. izd-va; EL'KIND,  
V.D., tekhn. red.

[Precision in preparing billets] *Tochnost' izgotovleniya za-*  
*gotovok. Moskva, Mashgiz, 1963. 363 p.* (MIRA 16:7)  
(Metalwork)

KOPANICKA, M.

✓ Polarographic determination of vanadium. R. Ptibis and  
M. Kopanicka (Karlova Univ., Prague). *Series I. Celio-*  
*vanadiční konf. Anal. Chemie (Prague)* 1957, 14, 4.  
Publ. 1957. - Ethylenediaminetetraacetic acid.

Heavy metals complexed with 1,10-phenanthroline.

reduction proceeds in 2 distinct steps  $V(V) \rightarrow V(IV)$  and  $V(IV) \rightarrow V(III)$

Pb-benzoate-II complexes. The use of pyridine and acetic acid.

KOPANICA, MILOSLAV

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*✓* **Rapid analytical methods for metals and minerals. I.**  
**Oxidimetric determination of cobalt in solutions of glycine.**

Miloslav Kopanica and Jan Dolezel, *Prace podniku pro*

*rozvoj a využití chemických materiálů*

Co can be determined by direct potentiometric titration with  $K_3[Fe(CN)_6]$  in the presence of glycine at pH 9.5-12. The complex is formed and stable under excess of air. Even metal ions  $M^{2+}$ ,  $Cr^{2+}$ ,  $W^{2+}$ ,  $As^{3+}$ ,  $Cu^{2+}$ ,  $Zn^{2+}$ ,  $Al^{3+}$ ,  $Pb^{2+}$ ,  $Ba^{2+}$ , and  $NH_4^+$  do not interfere, neither do  $Cl^-$ ,  $NO_3^-$ ,  $SO_4^{2-}$ , and  $F^-$ . Interfering influence of  $Mn^{2+}$  and  $Fe$  is removed by selective oxidation of Mn with  $NaNO_2$  in the medium and by excess of alkali. Fe is removed by means of  $Na_2O_2$  which prevent the formation of the complex-forming compounds. By  $NaCN$  the complex-forming data must be carried out in an inert atm. The method was successfully applied in the analysis of Ni salts, Ni alloys, and minerals.

KOPANICA, M.; DOLEZAL, J.

"A rapid analytic method for determining metals and inorganic raw materials.  
I. Oxidimetric determination of cobalt in a glycine medium. In German."

p. 195 (COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS. SBORNIK  
CHECKHOSLOVATSKIKH KHMICHESKIKH RABOT. --Praha, Czechoslovakia.)  
Vol. 22, No. 1, Feb. 1957

SO: Monthly Index of East European Accession (EEAI) LC, Vol. 7, No. 5, May 1958

KOPANICA, Miloslav ~~✓~~

E-2

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of  
Inorganic Substances.

Obs Jour : Rof Zhur - Khim., No 10, 1958, No 32166

Author : IV: Miloslav Kopanica, Jan Dolozal; V: Jan Dolozal.

Inst : -  
Title : Application of Amino Compounds to Polarography of Inorganic  
Substances. IV. Polarographic Behavior of Zinc, Cobalt and  
Nickel in Glycine Solutions. V. Simultaneous Determination  
of Thallium, Copper, Lead and Cadmium in Indium.

Orig Pub : Chem. listy, 1957, 51, No 6, 1052-1057; 1058-1060; Col-  
lect. czechosl. chem. commun., 1958, 23, No 1, 50-56; No 2,  
253-256.

IV.  $Zn^{2+}$  in the medium of the Britton-Robinson buffer  
solution of pH = 7.3 is reduced at -0.04 v. This wave is  
suppressed, if glycine was added, and a new wave appears si-  
multaneously, which is shifted about 200 mv to the side of

Card 1/4

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CZECHOSLOVAKIA / Analytical Chemistry. Analysis of  
Inorganic Substances.

B-2

Abs Jour : Rof Zhur - Khim., No 10, 1958, No 32166

negative values. The sum of heights of both those waves remains constant. A similar decrease of height of the 1st wave is observed also at the rise of pH, if the constant of analytic concentration was preserved. The authors suppose that the 1st wave corresponds to the reduction of the simple  $Zn^{2+}$  ion plus the reduction of a  $MG^+$  ion (in which M is a metal and G is the glycine group). If the glycine concentration was sufficient, the height of the 1st wave is determined by the rate of the reaction  $MG_2 + H^+ \rightarrow MG^+ + HG$ ; the rate constant of this reaction  $\log C_1 = 5.0$ . The 2nd wave corresponds to the reduction of  $MG_2^+$ . All that has been said in reference to Zn is valid also in reference to Co; in this case  $\log C_1 = 7.4$ . In the case of Ni, a decrease of the height of the 2nd wave of  $MG_2$  and the formation of a 3rd wave is observed; the 3rd wave grows in the shape of a

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KOPANICA, M.; DOLEZAL, J.

SCIENCE

Periodical COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS. SBORNIK CHEKHOVSKIKH  
KHIMICHESKIKH RABOT. Vol. 23, no. 1, Jan. 1958.

KOPANICA, M.; DOLEZAL, J. Use of amines in inorganic polarography. IV. Polarographic  
behavior of zinc, cobalt, and nickel in glycine solutions. In German. p. 50.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3, March, 1959. Uncl.

KOPANICA, M.

✓ Chelometric titration of manganese in ferromanganese. R. Ptibil and M. Kopanica (Czechoslovak Acad. Sci., Prague). *Chemical Analysis* 44, 85-94 (1959). Mn in ferromanganese (I) is detd. by an EDTA titration by dissolving about 0.25 g. of the alloy in concd.  $HNO_3$  and then concd.  $HCl$ ; evapn. to a small vol.; further addn. of the acids and a repetition of the evapn.; diln. to 250 ml. with  $H_2O$ . A 25- or 50-ml. aliquot of the soln., without bothering to remove ptd. silica, is placed in a 300-ml. conical flask and 5 ml. of 10% aq. hydroxylamine- $HCl$  soln. is added. Ten ml. of 20% triethanolamine soln. and 20-25 ml. of concd.  $NH_4$  are added.

The mixt. is dild. to 150 ml. Indicator powder, consisting of a mixt. of 1 part of thymolphthalein with 100 parts of  $KNO_3$ , is added to obtain a clear blue color. The soln. is titrated with standard 0.05M EDTA to a colorless or slight pink color. The procedure is only applicable to I contg. 40% Mn. Cu and Zn do not interfere in trace amounts; higher amounts can be masked by the addn. of 50 mg. of KCN. Cu can be detd. photometrically in an aliquot of the final soln. by the use of Na diethyldithiocarbamate by the procedure of Sedivec and Vesak (C.A. 44, 10574e). Bernard M. Blank

3

KOPANICA, M.; FRIBIL, R.

Application of complexones in chemical analysis. LIV. Polarographic determination of cadmium in metallic indium. Coll Cz chem 26 no.2: 398-402 F '61. (EEAI 10:9)

1. Laboratory of Analytical Chemistry, Institute of Geochemistry and Raw Material Research, Czechoslovak Academy of Science, Prague.

(Complexones) (Cadmium) (Indium)  
(Polarograph and polarography)

KOPANICA, M.; VYDRA, F.

Indirect amperometric cobalt determination. Coll Qz Chem 28 no.1:  
262-264 Ja '63

1. Polarographisches Institut, Tschechoslowakische Akademie der  
Wissenschaften, Prag.

CONRADI, O.; KOPANICA, M.

Polarographic examination of the complex-forming properties  
of the triethylenetetramine-N,N,N',N'',N''',N'''-hexaacetic  
acid. Coll Cz Chem 28 no.6:1600-1603 Je '63.

1. Analytisches Laboratorium, Polarographisches Institut,  
Tschechoslowakische Akademie der Wissenschaften, Prag.

KOPANICA, Miloslav

Displacement reactions of complex compounds and their use in  
polarographic analysis. Chem listy 58 no. 2:163-176 F '64.

1. Laborator analyticky chemie, Polarograficky ustav, Ceskoslo-  
slovenska akademie ved, Praha.

KOPANICA, Miloslav, RNDr. CSc.; CONRADI, Gunter, dipl. chem.

Triethylenetetramine N, N, N', N'', N'''-hexaacetic acid and  
its use in polarographic analysis. Rudy 12 no.6:202-203 Je '64.

1. Analytic Laboratory of the Institute of Polarography,  
Czechoslovak Academy of Sciences (for Kopanica). 2. Institute of  
Inorganic Chemistry, Karl Marx University, Leipzig, German  
Democratic Republic (for Conradi).

CONRADI, G.; KOPANICA, M.

Effect of surface-active substances on the polarographic behavior  
of triethylene-tetramine-N,N,N',N",N',N"-hexaacetic acid complexes.  
Coll Cz chem 29 no.8:1952-1956 Ag '64.

1. Polarographisches Institut, Tschechoslowakische Akademie der  
Wissenschaften, Prague.

KOPANITSA, M. [Kopanica, M.]; KONRADI, G. [Conradi, G.]; PRSHIEL, R.  
[Pribil, R.]

Polarographic determination of impurities in indium concentrates.  
Zav. lab. 30 no.10:1181-1183 '64. (MIRA 18:4)

1. Polyarograficheskiy institut AN Chekhoslovatskoy Sotsialisicheskoy  
Respubliki, Praga.

L 52760-62 ENT(1)/ENG(v)/FCC/SEC(t) Pe-5/Pi-4 CW/GS

ACCESSION NR: AT5011164

UR/0000/64/000/000/0108/01f3

AUTHOR: Ivanov, A. P.; Kopanik, Ye. K.; Prishivalko, A. P.; Predko, K. G.

TITLE: Investigation of the indicatrix of scattering of light by large absorbing particles of irregular form

SOURCE: Mezhdunarodnoye soveshchaniye po aktinometrii i optike atmosfery. 5th, Akustika i optika atmosfery (Acoustics and optics of the atmosphere).  
Study soveschaniya. Moscow, Izd-vo Nauka, 1964, 195-196.

TOPIC TAGS: atmospheric optics, light scattering, atmospheric absorption, atmospheric physics, aerosol, particle shape, scattering indicatrix

ABSTRACT: This paper is a continuation of investigations begun by Ye. O. Fedorova (ibid, Col. 1957, 25, No. 151). It presents an experimental study of the indicatrix of scattering of light by individual, large, slightly absorbing particles of irregular form. The authors report the results of an experimental study of the scattering of light by irregular particles of different sizes. The results of the paper are compared with the results of the scattering of light by spherical, slightly absorbing particles of an arbitrary form. The authors compare the experimental data. The particles of investigated matter successively entered the light beam. Upon passing through the beam the particle scatters light in all directions.

Card 1/3

scattering by particles of regular and irregular form is essentially different. For this reason, it is impossible to model particles of an arbitrary form by spherical centers of scattering of some effective size, as frequently is done. "In conclusion, the authors express deep appreciation to Ye. O. Fedorova for use of the apparatus used in the investigations, advice and discussion of the results." Orig. art. has: 8 formulas and 3 figures.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000824510002-9

Card 2/3

ACCESSION NR: AT5011164

ASSOCIATION: Institut fiziki AN BSSR, Minsk (Physics Institute, AN BSSR)

SUBMITTED: 25Nov64

ENCL: 00

SUB CODE: ES, OP

NO REF SOV: 003

OTHER: 007

Card

3/3

L 29679-66 ENT(m)/EWP(e) WH  
ACC NR: AP6012852

SOURCE CODE: UR/0358/66/004/004/0306/0312

AUTHOR: Prishivalko, A. P.; Burakov, V. S.; Zhukovskiy, V. V.; Kopanik, Ye. K.

ORG: none

TITLE: Investigation of losses in a resonator with non-parallel bases

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 4, 1966, 306-312

TOPIC TAGS: neodymium glass, solid state laser, laser cavity, laser optics, laser r and d, laser energy

ABSTRACT: In view of the fact that the radiation-power losses of a laser depend greatly on the adjustment of the resonator mirrors, the authors analyze in detail, both theoretically and experimentally, the dependence of the laser parameters on the angle between the mirrors. The theoretical analysis is made in the geometric-optics approximation and is based on a calculation of laser resonator losses published by B. I. Stepanov and V. P. Gribovskiy (UFN v. 82, 201, 1964). A formula is derived for the loss coefficient of the mode with the largest number of passages of the beam, and is used to calculate the loss coefficient of a neodymium-glass laser. The results of the calculation were checked experimentally for three samples of neodymium-glass with different diameters and different surface finishes,

UDC: 621.375.9

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APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000824510002-

L 29679-66

ACC NR: AP6012852

using a measurement procedure described by the authors earlier (ZhPS v. 2, 504, 1965). This method is based on determining the internal losses of the laser from the characteristic rise time of the lasing action. Plots are presented of the relative loss coefficient and the relative emission power against the misalignment angle of the mirrors. The calculations show that the losses increase rapidly with increasing angle, and that the minimum angle at which the loss can be neglected is  $\sim 15.5^\circ$ , which is lower than that given in the published specification. The discrepancy is attributed to the presence of systematic inhomogeneities in the rods, causing deflection of the beams to one side. The authors thank Academician AN BSSR B. I. Stepanov for interest in the work and a discussion of the results. Orig. art. has: 4 figures and 10 formulas.

SUB CODE: 20/ SUBM DATE: 06Sep65/ ORIG REF: 012/ OTH REF: 001

Card 2/2 10

PRISHIVAL'KO, A.P. [Pryshival'ka, A.P.]; KOPANIK, Ye.K. [Kapanik, Ye.K.]

Calculating the luminescence in a resonator with outer mirrors  
in the case of disadjustment. Vestsi AN BSSR. Ser.fiz.-mat.  
nav. no.2163-70 '65. (MIF 1981)

PRISHIVALKO, A.P.; KOPANIK, Ye.K.

Effect of the adjustment of resonator mirrors on the radiation  
parameters. Dokl. AN BSSR 9 no.10:654-658 0 '65.

(MIRA 18:12)

1. Institut fiziki AN BSSR. Submitted January 30, 1965.

**KOPANITSA, A.**

Organomineral fertilizer mixtures increase the yield of early  
potatoes. Nauka i poved. op. v sel'khoz. 8 no.4:23 Ap '58.  
(MIRA 11:5)

1.Zaveduyushchiy otdelom agrotekhniki Kiyevskoy ovoshchekartofel'noy  
opytnoy stantsii.

(Potatoes)  
(Fertilizers and manures)

KOPANITSA, A.M.

Fertilizers for potatoes in dark-gray podzolized soils. Agro-  
biologiya no.1241-45 Ja-F '64 (MIRA 17:8)

1. Kiyevskaya ovoshche-kartofel'naya optychnaya stantsiya.

KOPANITSA, A.M.

**E**ffect of organomineral fertilizers on vegetable and potato yields.  
Agrobiologiya no.1:99-102 Ja-F '60. (MIRA 13:5)

1. Kiyevskaya ovoshche-kartofel'naya stantsiya.  
(Vegetables--Fertilizers and manures)  
(Potatoes--Fertilizers and manures)

REF ID: A62515 RWP(m)/RWP(q)/RWP(b) IJF(c)/AFWL/RAEM(+)/SEP 10

SEARCHED

SEARCHED, SERIALIZED, INDEXED

1. V. V. Kurnadi, S.; Prasetyo, S.

2. INFORMATION

3. LABORATORIYA, v. 36, no. 10, 1964, Leningrad

D

4. 5. (a) impurity, polarographic analysis, (b) extractive/TTNA

ABSTRACT: The authors developed a method of finding copper, lead, cadmium, tellurium, indium and thallium in the presence of a large quantity of zinc, manganese and iron, which are determined by means of hydride technique. The method proposed to improve and simplify earlier polarographic means of determining Cu, Pb, Cd and Tl (V. V. Kurnadi and Z. I. Fishev, in issue of this journal, v. 35, no. 10, 1963). The reagent TTNA (triethanolamine - N, N, N', N'-tetraethanolamine) was used instead of citric acid in a form as the principal extractive reagent. Manganese is utilized by the authors and groupings of extractive reagent is offered, depending upon composition. Several tests were run to verify the accuracy of using the TTNA. Known quantities of indium, zinc, iron, cobalt, magnesium, manganese, copper, lead, cadmium and thallium were mixed together, and, after

At the same place, the extracted quantities were compared with the previous ones. The analysis proved quite accurate and required less time than before. A table of results and a detailed description of the analytical procedure. Orig. art. has: 1 formula and 1 table.

4. Polyamograficheskiy institut, Akademii nauk CHSSR Praga (Polarograph)  
(Academy of Sciences, Czechoslovakian SSR)

ENCL: 00

NO

NO REF Sov: 003

OTH EN: 003

KOPANITSA, N.I., agronom.

Highly oleaginous variety of sunflower in the raw materials zone  
of the Poltava Oil and Fat Combine. Masl.-zhir.prom. 19 no.5:6-7  
'54. (MIRA 7:9)

1. Poltavskiy maslozhirkombinat.  
(Poltava Province--Sunflowers) (Sunflowers--Poltava Province)

MIKHAI'CHENKO, V.; KOPANITSA, Ya.; MOLCHANOV, V.

Striving for technological progress. Mast.ugl. 8 no.12:13-15  
(MIRA 13:4)  
D '59.

1. Predsedatel' Stalinskogo gerkoma profsoyuza rabochikh ugol'noy promyshlennosti (for, Mikhal'chenko). 2. Predsedatel' Tul'skogo obkoma profsoyuza rabochikh ugol'noy promyshlennosti (for Kopanitsa). 3. Zaveduyushchiy otdelom truda i zarabotnoy platy Tul'skogo obkoma profsoyuza rabochikh ugol'noy promyshlennosti (for Molchanov).  
(Coal mines and mining) (Trade unions)

BOCHAROV, F.; DOBRA, A.; ZAYTSEV, N.; KALUTSKIKH, N.; KOMOGORTSEV, N.;  
KOPANITSA, Ya.; MIKHAYLENKO, I.; PLIKHIN, P.; PODZHAROV, P.;  
RUZOV, N.; SEMENOV, N.; STAKHANOV, A.; USKOV, A.

Foma Evgen'evich Tiurin; an obituary. Mast. ugl. 7 no.11:32 N '58.  
(MIRA 11:12)  
(Tiurin, Foma Evgen'evich, 1898-1958)

KOPANITSA, Ya.

Unforgettable encounters. Sov.shakht. 11 no.1:44 Ja '62.  
(MIRA 14:12)

1. Predsedatel' Tul'skogo oblastnogo komiteta profsoyuza.  
(Russia--Relation (General) with Hungary)  
(Hungary--Relation (General) with Russia)

KOPANJEC, M.

Examples of calculation of surface ventilators for a hard coal colliery with computations for a: ( a loss of air through protecting walls (of thickness less than 10m.) b) loss of depression because of sudden turns and changes in the cross sections of galleries and loss of depression because of formation of whirlwinds originating in passing of air masses through obstacles in pits. p. 11 65. TEHNKA (Savaz inženjera i tehnika Jugoslavije) Beograd. Vol. 11, no. 8, 1956/

SOURCE: East European Accession List (EEAL),  
Library of Congress, Vol. 5, no. 11, Nov. 1956

KOPANOV, Mikhail Aleksyevich; KASHIRIN, Vasiliy Filoafovich;  
VERZHEINSKAYA, I.I., inzh., red.; FHEGER, D.P., tekhn.red.

[Finish polishing using wheels with graphite filler] Chistovoe  
shlifovanie krugami s grafitovym napolnitel'em. Leningrad, 1956.  
6 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy.  
Informatsionno-tekhnicheskii listok, no.40: Mekhanicheskaiia  
obrabotka metallov) (Grinding and polishing) (MIRA 10:12)

KOPANOV, M. A.

BELOV, V.G., inzhener; KOPANOV, M.A., tekhnik.

How to check working roll surfaces on cold rolling mills. Metallurg  
no.6:30-31 Je '56. (MIRA 9:9)

1. Rukoveditel' prekatney gruppy TzZL (fer Belev). 2. Machal'mik uchastka  
shlifovki valkov (fer Kepanov). 3. Leningradskiy staleprekatnyy i preve-  
lechens-kanatnyy zavod imeni Meletova.  
(Bells (Iron mills))

KOMENDANTOV, G.L.; KOPANOV, V.I.

Motion sickness as a problem of space medicine. Probl. kosm.  
biol. 2:80-92 '62. (MIRA 16:4)  
(MOTION SICKNESS) (SPACE MEDICINE)

KOPANS, G.I.

Installing an auxiliary telpher on the K2K-20/3 t. grab gantry  
crane. Stroi. ind., stroi. mash. i makh. no.1:62-66 '62.

(MIRA 17:9)

1. Moskovskiy zavod zhelezobetonnykh izdeliy i konstruktsiy Moskovskogo  
tresta po stroitel'stvu i montazhu teplovых elektrostantsiy.

*Kopanska* 11  
KOPANSKA, W.

God made no use of the opportunity; a book review.

p. 18 (Zolnierz Polski) No. 26, Nove. 1957, Warszawa, Poland

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

ACCESSION NR: AR3000205

S/0081/63/000/006/0136/0136

SOURCE: RZh. Khimiya, Abs. 6G139

AUTHOR: Lyalikov, Yu. S.; Kopanskaya, L. S.

TITLE: Analysis of microsamples of indium-antimony-tellurium base semiconductor alloys

CITED SOURCE: Izv. AN MoldSSR, no. 12(90), 1961, 47-55

TOPIC TAGS: microsamples, indium-antimony-tellurium, semiconductor alloys

TRANSLATION: A microanalytical procedure has been developed for binary and ternary In-Sb-Te semiconductor alloys (sample of less than or equal to 30 mg). In <sup>3+</sup> determined complexometrically, Sb <sup>3+</sup> by bromide-bromate titration, Te <sup>4+</sup> iodometrically. Sample of about 30 mg is fused in microcrucible with 150 - 300 mg K-bisulfate and the melt is leached by heating with 3 ml mixed acid (25 ml sulfuric acid + 45 ml HCl + 180 ml water). The resultant solution is transferred with the use

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ACCESSION NR: AR3000205

added 3 ml HCl (1:1), excess of KI, diluted with water to 20 ml and titrated with solution of Na-thiosulfate. A blank titration is carried out concurrently. Error of determination of Sb less than 4.7%; of Te, less than 6.1%. The method is suitable for analysis of films of semiconductor materials (to remove the film from the glass it is treated with molten K-bisulfate and weight of sample is determined from decrease in weight of glass), and of microsamples obtained by drilling from different phases of semiconductor materials. N. Chudinova

DATE ACQ: 16May63 ENCL: 00

SUB CODE: 00

Card 3/3

5/137/62/000/012/085/085  
A006/A101

AUTHORS: Lyalikov, Yu. S., Kopanskaya, L. S., Safrokova, N. N.

TITLE: Chemical and physico-chemical methods for determining indium, antimony, and tellurium in semiconductor alloys

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1962, 19  
abstract 12K118 (In collection: "Fizika", Leningrad, 1962,  
26 - 30).

TEXT: The authors developed macro- and microchemical methods of determining In, Sb and Te, without separating same, in semiconductor alloys. The mean error does not exceed  $\pm 0.5\%$ . For In determination, 5 ml 10%-solution of Seignette's salt, 10 - 15 ml buffer mixture (pH 8 - 10) and eriochrome black tracer, are added to the solution under investigation. The mixture is heated to the boiling point and titrated with trilon B until it turns blue. To determine Sb, 5 - 10 ml HCl (1:4) and one drop of methyl red tracer are added to the aliquot portion of the solution, which is titrated in 0.1 n. KBrO<sub>3</sub> solution until it turns yellow. To determine Te, 1 - 2 g KI is added to the aliquot portion of the

Card 1/2

KOPANSKAYA, I.S.; LYALIKOV, Yu.S.

Photocolorimetric analysis of the system indium - antimony - tellurium.  
Izv. AN Mold. SSR no.10:31-37 '62. (MIRA 17:12)

L 32208-65 EWT(1)/EWT(m)/T/EWP(t)/EEO(b)-2/EWP(b) PI-4 LJP(c) REN/CG/JD/US

2442 AT&T 65-14

2. *Paracardiacosmia* (1975) 1: 107-115.

1933-1934, U. S.

alloys based on indium-antimony-tellurium.<sup>27</sup>

SOURCE: Nauchnaya konferentsiya molodykh uchenykh Moldavii, 3d. Trudy, no. 1: prirodo-tekhnicheskiye nauki (Natural and technical sciences). Kishinev, 1964. 25

semiconductor alloy, antimony alloy, tellurium alloy, quantitative analysis

1. A colorimetric method for the determination of In, Sb, and Te  
exists at a milligram sample size. The method is based on the  
dissolution of the elements in the presence of a complexing agent  
and the formation of a colorimetric complex. The method is  
simple, accurate, and sensitive.

cathode (period = 2 sec.), and a solid phase mercury anode. The results agreed within 0.7% with the known composition of the samples.

Card 1/2

L 32208-65

ACCESSION NR: AT5005414

ASSOCIATION: None

REV: 5/15/84

ENCL: 00

STB CODE: OP, 88

OTHER: 00

LYALIKOV, Yu.S.; KOPANSKAYA, L.S.

Rapid method of determining indium, antimony, and tellurium  
in semiconductor alloys by means of an alternating current  
polarograph. Ukr. khim. zhur. 30 no.1:91-95 '64.  
(MIRA 17:6)

1. Institut khimii AN Moldavskoy SSR.

L 24653-65 EPR/EWT(m)/EWP(b)/EWP(t) Pg-4 IJP(c) RDW/JD  
ACCESSION NR: AP5004704 5/0030/64/000/009/0075/0078 26  
27

AUTHOR: Pyalikov, Yu. S. (Corresponding member AN MolSSR); Radautsan, S. I. <sup>B</sup>  
(Candidate of physico-mathematical sciences); Kopanskaya, L. S.; Molodyan, I. P.

TITLE: Synthesis and chemical analysis of complex phase semiconductors

SOURCE: AN SSSR. Vestnik, no. 9, 1964, 75-76

TOPIC TAGS: indium, antimony, tellurium, selenium, aluminum, semiconductivity,  
chemical compound, analytic chemistry

Abstract: The synthesis of complex semiconductor systems, and their chemical and phase composition, have been investigated at the Institute of Physics and Mathematics and the Institute of Chemistry of the Moldavian Academy of Sciences. The results of investigations of systems of the A<sub>III</sub>B<sub>V</sub>CVI type are reported. In the indium-antimony-tellurium system, a new phase, In<sub>x</sub>SbTe, with a NaCl-type lattice was detected and separated by the zone-leveelling method. A large region of complete solid solubility, with a zinc blende-type structure, was also detected in (InSb)<sub>x</sub>-(InTe)<sub>1-x</sub> compositions for x < 0.85. The existence of monovalent indium atoms was assumed in both structural

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L 24653-65

ACCESSION NR: AP5004704

types. The formation of vacancies in either cationic or anionic sublattices in solid solutions is the most likely mechanism of crystallization.

Large solid-solubility regions near the  $A^{III}B^V$  component were also observed in the indium-arsenic-tellurium system (in the 0-50 mol % InTe range), and in the indium-arsenic-selenium and aluminum-antimony-tellurium systems. Recently, the possibility of dissolving 10 at% tellurium in InAs was discovered. The mechanism of solid dissolution of sixth-group elements in  $A^{III}B^V$  compounds is explained. An attempt to synthesize  $Ga_4SbTe_3$ ,  $In_4AsTe_3$ , or  $In_4SbSe$ , produced only complex mixtures of binary compounds and elements. Formation of large complete solid-solubility regions by heterovalent substitution is also considered possible in other ternary or more complex systems, near compounds of the  $A^{II}B^{VI}$  type and in ternary diamond-type structures.

Chemical, microchemical, and physicochemical analytical methods were developed for determination of components in the indium-antimony-tellurium and gallium-phosphorus-sulfur systems. The pulse polarographic method is considered especially convenient for quantitative chemical analysis of thin semiconductor films deposited on a glass substrate by the Vekshinski method.

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L 24653-65  
ACCESSION NR: AP5004704

A microboring machine with a PMT-3 microhardness gauge, and the anodic-dissolution method, were used for mechanical and electrochemical phase separation to determine the chemical composition of each phase in the indium-antimony-tellurium and In-InTe systems, respectively. Phase separation in the Ga-GaP and  $_{2,3}^{Ga_xS_x}$ -GaP systems was achieved by selective dissolution in hydrochloric acid.

ASSOCIATION: Institut fiziki i matematiki Akademii nauk Moldavskoy SSR (Institute of Physics and Mathematics, Academy of Sciences, MolSSR); Institut khimii Akademii nauk Moldavskoy SSR (Institute of Chemistry, Academy of Sciences, MolSSR)

SUBMITTED: 00 ENCL: 00 SUC CODE: SS, GG  
NO REF SOV: 000 OTHER: 000 FSB v. 1, no. 1

Card 3/3

L 27911-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD  
ACCESSION NR: AP4011978 S/0073/64/030/001/0091/0095

23  
22  
B

AUTHORS: Lyalikov, Yu. S.; Kopanskaya, L. S.

TITLE: A fast method for determining In, <sup>75</sup>Sb and Te in semiconductor alloys on an alternating current polarograph

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 30, no. 1, 1964, 91-95

TOPIC TAGS: In Sb Te system, pulse polarograph, a c polarograph, semiconductor alloy, thin film, indium, antimony, tellurium

ABSTRACT: A pulse polarographic method is developed for the analytical control of the synthesis of new semiconductors with given characteristics. Indium, antimony and tellurium can be determined in quantities in the order of  $10^{-6}$  mole/liter of 1N HCl electrolyte in In-Sb thin layers or in InSb-InTe semiconductor alloys. Preliminary separation of tellurium from indium is required only if the Te/In ratio is smaller than 1/100. This method has a high sensitivity and resolution power as well as some other advantages in comparison to other methods for defining the system In-Sb-Te. An a c polarograph of type KAP-225u. was used in this study. All three elements can be polarographed in one solution without the necessity

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L 27911-65

ACCESSION NR: AP4011978

of first removing the oxygen. Orig. art. has: 3 figures and 4 tables.

ASSOCIATION: Institut khimii AN MSSR (Institute of Chemistry, AN  
MSSR)

SUBMITTED: 07 Jan 63

ENCL: 00

SUB CODE: SS, OP

NR REF Sov: 013

OTHER: 000

2/2

Card

L 6695-65 EWT(m)/EWP(q)/EWP(b) RAEM(t) RDW/JD/MLK  
ACCESSION NR: AT4044567

S/0000/64/000/000/0134/0142

48  
47

AUTHOR: Lyalkov, Yu. S.; Kopanskaya, L. S.; Molodyan, I. P.; Bedutsan, S. I.

(Candidate of physico mathematical sciences)

TITLE: Microchemical phase analysis of some semiconductor alloys of the system

In - Sb - Te

SOURCE: AN MoldSSR. Institut fiziki i matematiki. Issledovaniya po poluprovodnikam; novyye poluprovodnikovyye materialy (Semiconductor research; new semiconductor materials). Kishinev, Gos. Izd-vo Kartya Moldovenyasko, 1964, 134-142

TOPIC TAGS: phase analysis, microchemical phase analysis, semiconductor alloy, In - Sb - Te alloy, potentiometric titration, x-ray structural analysis, microhardness, microstructure

ABSTRACT: Microanalysis of the phase composition of In-Sb-Te alloys was carried out by potentiometric titration methods; antimony, tellurium, and Indium were determined using methods previously described. Micro-samples of the different phases of this system were obtained with a drilling attachment to a microhardness meter base, using drills 0.1 mm in diameter. The phase samples obtained in this manner were not contaminated by other phases provided the drilling was not deeper than the phase diameter of 0.2 mm. A comparison of the single phase alloy  $_{\text{In}_4\text{SbTe}_3}$

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ACCESSION NR: AT4044567

with the ternary compound  $\text{In}_4\text{SbTe}_3$  showed that the error of element determination did not exceed 2% (abs.). Molar calculation by chemical analysis confirmed the alloy composition. The three-phase alloy  $3\text{In}_3\text{Sb}_3$ .  $\text{In}_2\text{Te}_3$  was then investigated by this method. Only the gray and light gray phases could be analyzed microchemically. Results indicated that the gray phase contained all three elements and represented the solid solution of In-Sb, while the light gray phase revealed only indium and tellurium. It was shown that this alloy did not contain its original compounds  $\text{InSb}$  and  $\text{In}_2\text{Te}_3$ . Ingots obtained after zone leveling of the alloy  $\text{In}_3\text{Sb}_3$ .  $\text{In}_2\text{Te}_3$  were also analyzed. The beginning, middle and end of the ingot were checked for phases, microhardness, lattice type and lattice constant. Microchemical analysis showed that the ratio of the elements in the beginning of the ingot was close to that in the ternary compound  $\text{In}_4\text{SbTe}_3$ . Analysis of the middle showed a decrease in indium and an increase in antimony. The final section consisted of phases corresponding to  $\text{InSb}$  and also  $\text{In}_4\text{SbTe}_3$ . These data agree with micro and x-ray structural analyses. Orig. art. has: 5 figures and 3 tables.

ASSOCIATION: Institut fizikal' i matematicheskogo i Nauk SSR (Institute of Physics and Mathematics, AN Mol. SSR)

SUBMITTED: 13 Dec 63

ENCL: 00

SUB CODE: MM

Card:

2/2 NO REF Sov: 008

OTHER: 000

L 32196-66 ENT(m)/ETC(f)/T/EXP(t)/ETI IJP(c) RDW/JD  
ACC NR: AP6012909 SOURCE CODE: UR/0075/66/021/004/0516/0517

AUTHOR: Kopanskaya, L. S.

130  
68

ORG: none

TITLE: Conference on analytical chemistry of semiconductors

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 4, 1966, 516-517

TOPIC TAGS: chemical conference, analytic chemistry, semiconducting material, trace analysis, polarographic analysis, spectrophotometric analysis, spectrographic analysis, spectroscopy

ABSTRACT: A Conference on Analytical Chemistry of Semiconductors was held 11-15 November 1965 at the Academy of Sciences MoldSSR in Kishinev. About 200

participants discussed the problems of sensitivity of newly developed analytical methods in view of purity requirements ( $10^{-6}$ - $10^{-8}$  % impurity) for semiconductor materials, application of the analytical methods for production control of semiconductor materials, preparation of pure reagents with controlled impurity content, chemical analysis of complex semiconductor systems, etc.

Basic trends of the analytical chemistry of multicomponent systems were outlined by Yu. S. Lyalikov, N. A. Goryunova, S. I. Radutsyan, and L. S.

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L 52196-66

ACC NR: AP6012909

Kopanskaya (AS MoldSSR and Leningrad Physicotechnical Institute, AS USSR) who emphasized the importance of determining stoichiometric deviations of the order of  $10^{-3}\%$ .

M. S. Chupakhin, and Yu. V. Yakovlov, both from the Moscow Institute of Geochemistry and Analytical Chemistry, AS USSR, reported on determination of oxygen and nitrogen in high purity hydrogen and argon, and on activation analysis of semiconductors, respectively.

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Most of the papers dealt with various polarographic techniques.

A. G. Stromberg and co-workers (Tomsk Polytechnic Institute) presented a series of papers on amalgam polarography with accumulation, which presently makes possible determination of  $10^{-7}$ — $10^{-8}\%$  impurity, and offers distinct possibility of increasing sensitivity to  $10^{-10}$ — $10^{-11}\%$ .

B. Ya. Kaplan, G. N. Revyakina, Kh. S. Rezakova, and O. A. Shirayeva (State Scientific Research and Planning Institute of the Rare Metals Industry) used pulse polarographic technique to increase sensitivity of tellurium determination in gallium phosphide.

I. A. Tserkovnitskaya and V. N. Yermakov (Leningrad State University) used oscillographic polarography in different base electrolytes to determine simultaneously selenium and germanium.

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L 32196-66

ACC NR: AP6012909

A. M. Surmiy, A. M. Arishkevich, and Yu. I. Usatenko (Dnepropetrovsk Institute of Chemical Technology) indicated the possibility of amperometric determination of tellurium and antimony, or selenium and antimony in various semiconductor materials. 25

A series of papers was presented on [spectro] photometric determination of impurities in high purity elements or  $A^{III}B^V$  and  $A^{II}B^{IV}$  [sic] compound semiconductors. In this series, N. B. Lebed, R. P. Pantaler, and L. N. Semenova (All-Union Scientific Research Institute of Single Crystals) gave a method of determination of different selenium forms in cadmium selenide.

L. B. Kristaleva, N. A. Shor, and P. V. Kristalev (Perm' Polytechnic Institute) reported the determination of arsenic as a molybdenum thiocyanate complex in red phosphorus. V. G. Goryushkina and Ye. Ya. Biryukova (State Scientific Research and Planning Institute of the Rare Metals Industry) presented photometric methods for indium gallium and arsenic.

In the series on spectroscopic analysis of semiconductor materials, great interest was shown in the paper by A. V. Karyakin, M. V. Akhmanova, and V. A. Kaygorodov (Institute of Geochemistry and Analytical Chemistry, AS USSR) on determination of aluminum, boron, and phosphorus deposits in SiC with the help of a laser. M. A. Notkina and S. M. Solodovnik (State Scientific Research and Planning Institute of the Rare Metals Industry) showed that sensitivity of impurity determination in  $A^{III}B^V$  compounds can

Card 3/4

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Card 4/4

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KOPANSKI, F.

COUNTRY : Poland H-13  
CATEGORY :  
ABS. JOUR. : RZKhim., No. 21 1959, No. 75612  
NAME : Kopanski, F.  
TITLE : No. given  
TITLE : The Production of Building Materials from Fuel Wastes  
ORIG. PUB. : Energetyka (Poland), 12, No 1, 1-5 (1958)  
ABSTRACT : The production of local building materials (LBM) from steam-heat and electric power station fuel wastes (slag, fly ash) in Southern Poland is described. Among the LBM produced are porous and gaseous silicate and blast furnace slag concrete blocks and blast furnace slag-ash-concrete bricks, used mainly in the construction of housing units and auxiliary buildings. The mortars used in the production of LBM are burnt CaO, ground gypsum, ground blast furnace slag; Al powder is used as

CARD: 1/3

4-13

COUNTRY : Poland  
CATEGORY :  
ABS. JOUR. : RZKhim., No. 21 1959, No. 75612  
AUTHOR :  
INST. :  
TITLE :  
ORIG. PUB. :  
ABSTRACT : pore-[gas-] forming agent. Porous and gaseous blocks are produced from mixtures of ash, ground CaO, gypsum, Al, and water, mixed to the consistency of liquid cream, and are poured into forms; when the mass has set, it is cut into blocks of desired size and the latter are subjected to the action of saturated steam, followed by additional storage for about 1 month. Blast furnace slag-ash-concrete bricks are formed in 'carousel' presses and taken to autoclaves. Slag-concrete

CARD: 2/3

197

COUNTRY	:	Poland	H-13
CATEGORY	:		
ABS. JOUR.	:	RZKhim., no. 21 1959, No.	75612
AUTHOR	:		
EDITION	:		
TITLE	:		
ORIG. PUB.	:		
ABSTRACT	:	blocks are produced from mixtures of granulated boiler slag, ground CaO, and ground blast furnace slag of normal poured concrete consistency; the blocks are shaped by machine and kept 10-14 days in steam chambers or stored under natural conditions for 30 days. The production of type 150 slag portland cement from blast furnace slag has been organized at the rate of about 200 tons per month; in addition, up to 10,000 tons of clay cement are produced per yr. The Polish Govern-	
CARD: 3/4			

COUNTRY	:	Poland	H-13
CATEGORY	:		
AES. JOUR.	:	REKhim., No. 21 1959, No.	75612
AUTHOR	:		
INST.	:		
TITLE	:		
ORIG. PUB.	:		
ABSTRACT	:	ment has drawn up a broad plan for the production of LBM from fuel wastes: of the total planned 1965 production of 10 billion units (brick basis), only 4 billion units will be produced in the form of bricks from clay, the remaining 6 billion units being made from wastes.	S. Glebov
CARD: 4/4			
198			

KOPANSKI, R.

Possibilities of the introduction of silkworm breeding in collective farms. p. 74.  
(NOWE ROLNICTWO. Vol. 2, no. 10, Oct. 1953)

SO: Monthly List of East European Accessions, L.C., Vol. 3, No. 4, April, 1954

KOPANSKIY, Ya. M.

Dissertation defended for the degree of Candidate of Historical Sciences in the  
Institute of History

"Upsurge of the Working Class Movement in Bessarabia During the Years of the  
World Economic Crisis (1929-1933)."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

KOPANTSEV, M.N.; OVCHINNIKOV, B.A.; BABAYEV, Ye.V.; BABUSHKINA, M.D.

System of purification and cooling of sulfur dioxide with the  
use of bubble tower equipment. Bum.prom. 34 no.2:11-15 P '59.  
(MIRA 12:4)

1. Upravleniye TsBP Kaliningradskogo sovnarkhoza (for Kopantsev).
2. Vtoroy Kaliningradskiy kombinat (for Ovchinnikov).
3. Moskov-  
skiy filial Tsentral'nogo nauchno-issledovatel'skogo instituta  
tsellyuloznoy i bumazhnoy promyshlennosti (for Babayev, Babush-  
kina).

(Sulfur dioxide) (Scrubber (Chemical technology))

**Regeneration (of sulfurous acid and related liquids) in sulfite pulping.** M. Koganitzy, *Central. Nauch.-Issled. Inst. Priborostroyeniya*, Materialy 1034, No. 4, 116-65.---Theoretical and exptl. studies of the problems of recovery of  $SO_3$  and blow-off acid in connection with the production of tower acid and sulfite pulping led to the following conclusions: the quantity of recovered  $SO_3$  depends directly on the content of free  $SO_3$  in the cooking acid. For the cooking kettles of the Syansk mill it is detd. by the formula: percentage  $SO_3$  = 1710 (free  $SO_3$  1). The percentage of  $SO_3$  recovery is detd. by the compn. of the cooking acid and the formula: recovered  $SO_3$  =  $100 \times \text{free } SO_3 = 1/\text{total } SO_3$ . This formula with corrections for the work of recovery installations can be applied to the majority of Soviet pulp mills. The correction for the recovery plant of the Syansk mill is 4.7% because of the incomplete absorption of  $SO_3$  in the Stelskina tower. The formula makes possible comparison of the efficiencies of various recovery installations with adequate means of calcn. and control of the production of tower and cooking acids. Forced circulation increases somewhat the percentage of  $SO_3$  recovery in comparison with the usual cooking. Energetic and deep reflux results in the pptn. of  $Ca(HSO_3)$  and a pulp with a higher ash content. Extended steeping and slowly rising temp. increase the per-

percentage of  $\text{SO}_3$  recovery. With better packing of wood chips in the digesters the percentage of regeneration decreases. The percentage of recovery of liquor for the same installation may fluctuate within wide limits. The quantity of recovered liquor depends on (1) the extent of filling of the digesters with acid, (2) the moisture content of wood chips and (3) the period of reflux. The strength of the reflux liquor increases with the increased contents of free  $\text{SO}_3$  in the cooking acid. With better packing of wood chips in the digesters the quantity of reflux liquor decreases. The reflux liquors contain 0.3%  $\text{CaO}$ . In all blow-offs, except the final one, the reflux liquid consists chiefly of the hemicellulose mechanically carried over, contg. 3-7% of the starch

420-324 METALLURGICAL LITERATURE CLASSIFICATION

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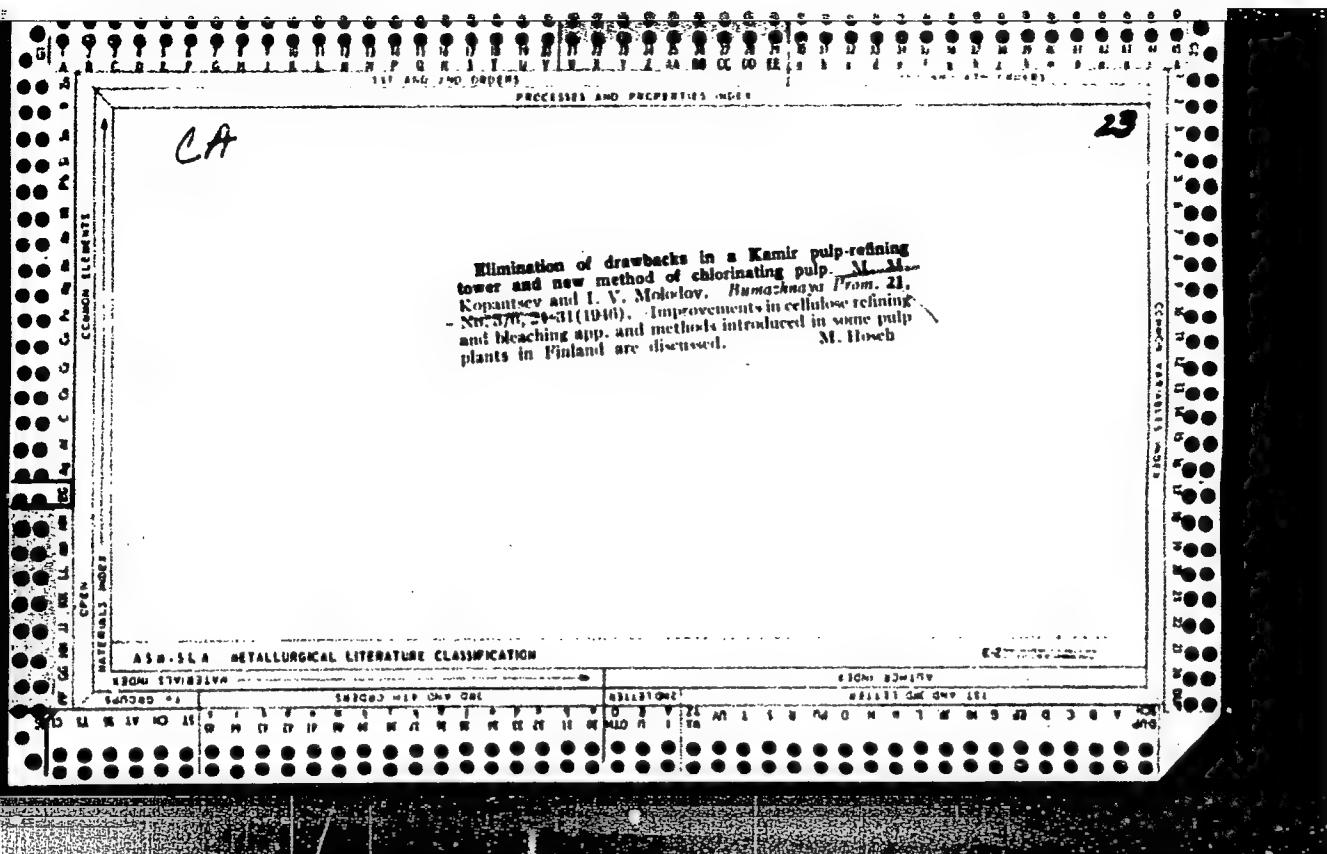
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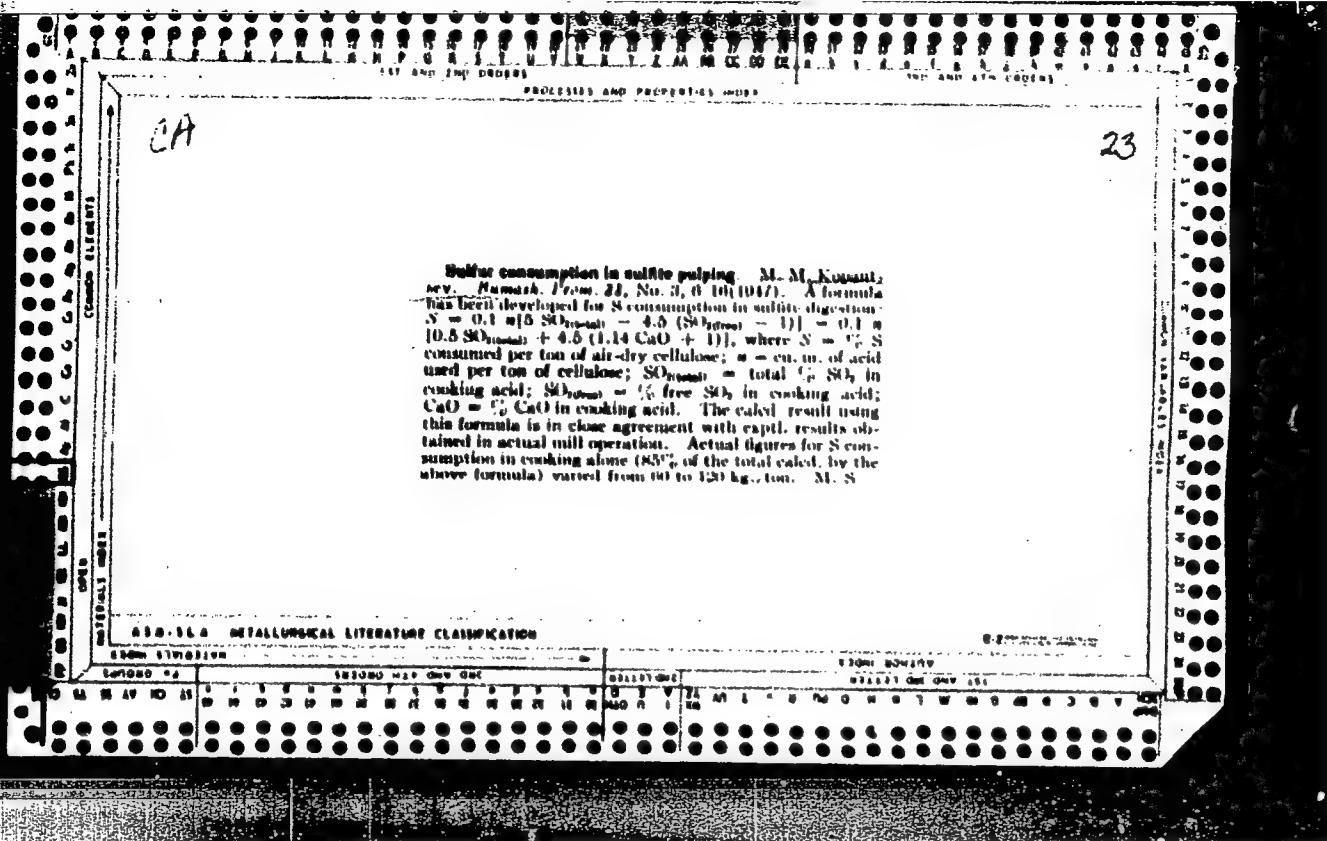
The work of Byss'shill pulp mill. M. M. Kuparavsky. *Russische Pflanze*, 10, No. 6, 13-21 (1929).—A crit. discussion of all the phases of sulfite pulping and the proposed methods of improved procedures. C. Blanc

ASME-SEA METALLURGICAL LITERATURE CLASSIFICATION

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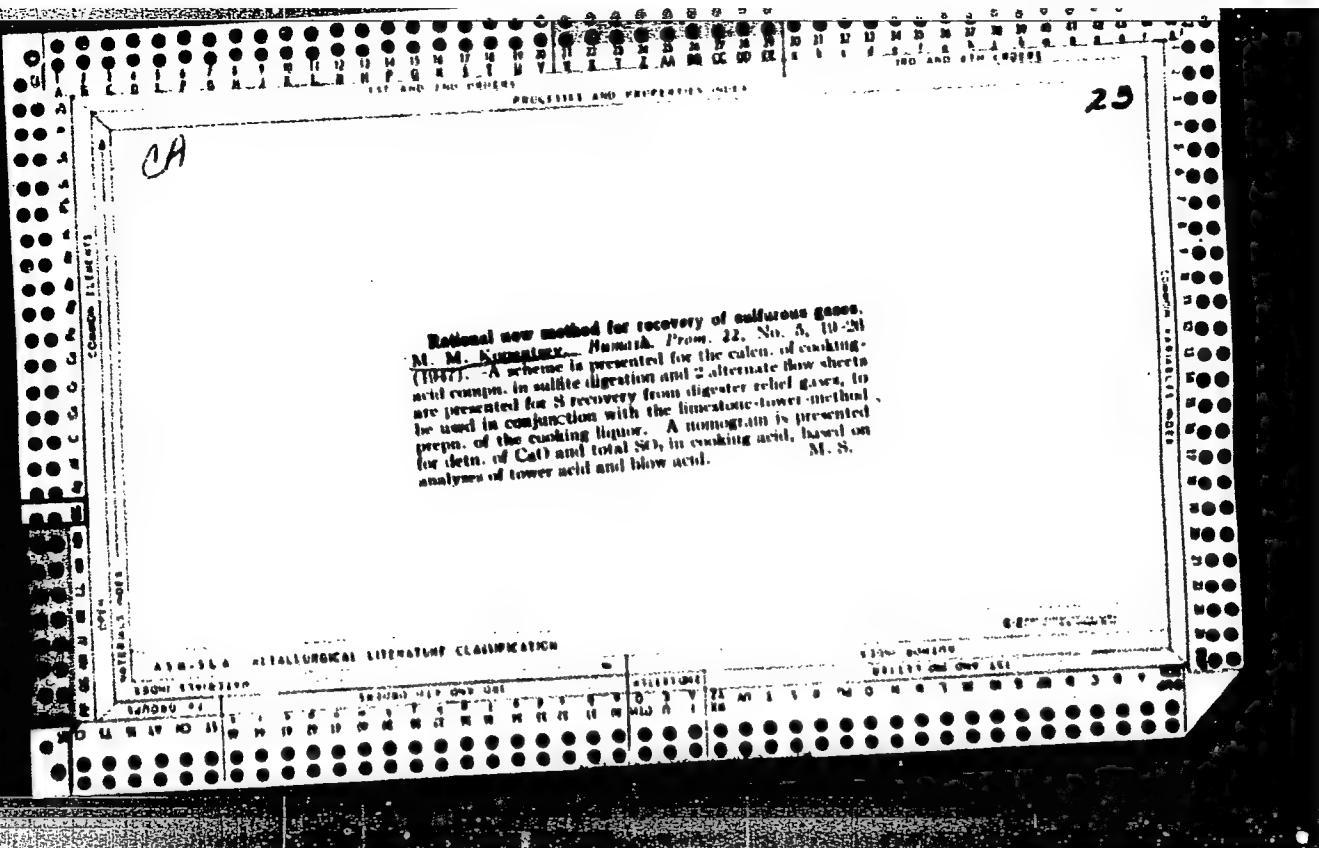
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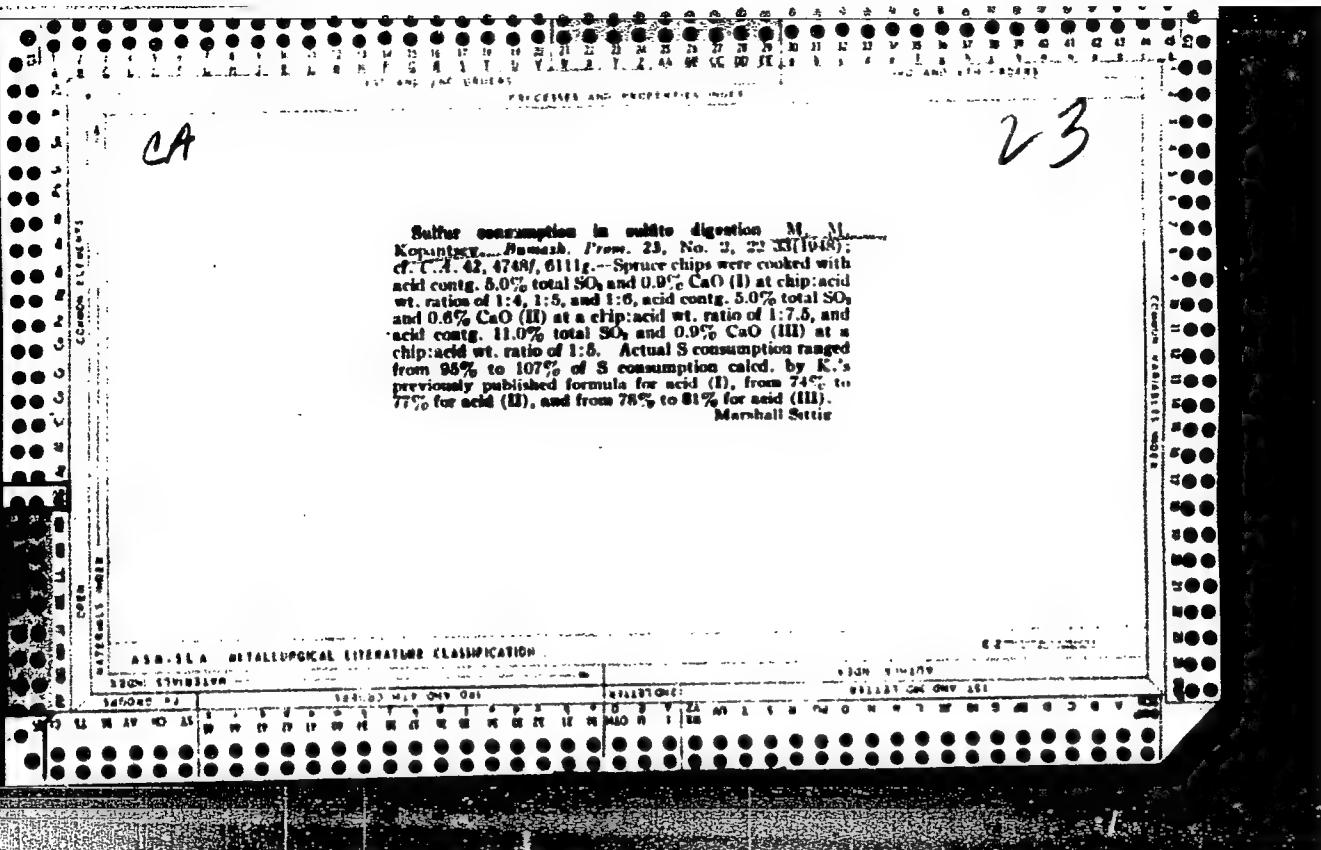




CP

Production of wood-fiber plates. M. M. Kopantsev.  
Sov. Pat. No. 22, No. 4, 15-27(1947). Principles of  
manufact. and characteristics of insulite, wallboard, and rauma  
(Finnish product). 12 references. B. Z. Kamich





CA

**The application of liquid sulfur dioxide in sulfite mills.**  
Max. Mackayantsev, *Nauch. Prom. 20*, No. 6, 19-24  
(1951). - The use of liquid  $S_2O_2$  (1) for fortifying sulfite cooking acid during the summer months is described. The transportation and storage of 1, methods of introducing it at various points in the acid system, the effect of its use on the recovery system, and the results of its use on mill production are discussed. In one mill, the use of 0, 8.8, 15.1, and 18.1 kg. 1 per ton of pulp resulted in production indexes of 100, 107.8, 111.6, and 121.0, resp. In another mill, where the strength of the tower acid was 3.0% (0.90%  $CaO_2$ ), and of the cooking acid 3.37% (1.0%  $CaO_2$ ), the use of 45 kg. 1 per ton of pulp gave a cooking-acid strength of 1.3%, and the cooking time was reduced from 22 hrs. 35 min. to 11 hrs. 35 min.

John Lake Keys

1. KOPANTSEV, M. M.
2. USSR (600)
3. Wood Pulp Industry
4. Problem of the effect of running the solution from vessel to vessel during sulfate cooking on the extraction of sugars.  
Bum.prom. 27 No. 6 - 1952.
  
9. Monthly List of Russian Accessions, Library of Congress, February, 1953. Unclassified.

1. KOPANTSEV, M. M.
2. USSR (600)
3. Wood Pulp Industry
4. Use of deep runs of the liquor from boiler to boiler in sulfite cooking of pulp.  
Bum.prom. i<sup>7</sup> No. 11 - 1952.
  
9. Monthly List of Russian Accessions, Library of Congress, February, 1953. Unclassified.

KOPANTSEV, ENG. M. M. - NAGRODSKIY, I. A.

Paper Industry

Book which should not have been printed ("Technical and chemical control in pulp and paper production." B. P. Osanov. Reviewed by Eng. M. M. Kopantsev, I. A. Nagrodskiy),. Bum. prom. 28 no. 1, 1953

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

KOPANTSEV, M.M.

Increasing the service life of the blades of bark-remover knives.  
Bum.prom. 29 no.7:25-26 Jl '54. (MLRA 7:8)

1. Glavnyy inzhener vtorogo Kaliningradskogo tsnellyulosno-bumashnogo kombinata.  
(Wood-pulp industry)

KOPANTSEV, M.M.

Water as one of the means of regulating the process of pyrite  
burning; Bum.prom.29 no.9:16-22 S '54. (MLRA 7:11)

1. Glavnnyy inzhener vtorogo Kaliningradskogo tsnellyulosno-  
bumashnogo kombinata.  
(Pyrites)